

## **ABSTRACT**

### **EVALUATION OF CREATINE KINASE AS A DIAGNOSTIC TOOL IN THYROID FUNCTION**

**N.Ezhil<sup>a</sup>, G.Bagialakshmi<sup>b</sup>, P.Saravanan<sup>c</sup>, S.Krishnasamy Prasath<sup>c</sup>,**

- a) Post Graduate ,Department of General Medicine ,Government Rajaji  
Hospital and Madurai Medical College**
- b) Professor Department of General Medicine ,Government Rajaji Hospital  
and Madurai Medical College**
- c) Assistant Professor ,Department of General Medicine, Government Rajaji  
Hospital and Madurai Medical College**

### **INTRODUCTION:**

Thyroid disorders are very commonly affecting the general population, even the persons residing in non goitrous areas are no exception. Currently used tests for the assessment of thyroid functions (thyroid-stimulating hormone [TSH], tri-iodothyronine [T3] and thyroxine [T4]) are not sometimes sufficient to clearly make out the diagnosis as T3 and T4 levels are affected by many other nonspecific conditions. The present study was done to evaluate the role of alternative biochemical parameter creatine kinase (CK) in diagnosing thyroid disorders.

## **AIMS AND OBJECTIVES:**

- To evaluate the role of creatine (CK) as a diagnostic tool in thyroid disorders
- To show that increased CK in hypothyroidism is not only because of prevalence of muscular dystrophy in hypothyroidism but also due to role of free T3 in gene expression, resulting in elevated CK in hypothyroidism and low CK in hyperthyroidism.
- To correlate elevated CK to subclinical myopathy in hypothyroidism

## **MATERIALS AND METHODS:**

. This study is done in Madurai medical college, Madurai. This study group comprises of 50 patients randomly coming for TFT to endocrinology OPD. There were 30 hypothyroid, 20 hyperthyroid patients. 25 age, sex, socioeconomic status matched persons were taken as controls.

## **RESULT:**

About 73.33% of hypothyroid cases had elevated CPK levels. 26.67% of hypothyroid cases had normal CPK values.

85% of cases had normal CPK values and 15% of cases had low CPK values

There is strong negative correlation between T3, T4 and CPK . Whereas, there is a strong positive correlation between TSH and CPK values.

## **CONCLUSION:**

Its concluded from the above study that CPK may be used as a supportive marker to diagnose hypothyroidism, especially in situations where measured thyroid

hormone levels are likely to vary like pregnancy, oral contraceptives, drugs like heparin, protein wasting diseases etc. It also shows the inverse correlation between T3 T4 and CPK which may be explained by the role of T3 in gene expression.

**KEY WORDS:** Thyroid, CPK, Biochemical marker

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